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LE, LANA N	

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/721,854	ROSEN ET AL.	
	Examiner	Art Unit	
	Lana N Le	2685	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 December 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-48* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *040705*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's amendment with respect to independent claims 1, 15, 18, 23, 28, 35, 37 and 39 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-3, 5-9, 12, 14-16, 18-21, 23, 25, 28-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al (US 6,061,562) in view of Lindenblad (US 2,598,064).

Regarding claim 1, Martin et al discloses a communications system (fig. 1), comprising: a gateway 22, communicatively coupleable to a terrestrially based network 54 (col 6, lines 44-53); a plurality of communications platforms (12) disposed in a stratospheric location (col 3, lines 54-67), for transponding information between at least one of a plurality of user terminals 18 (col 4, lines 63-65) and the gateway 22 (col 5, lines 30-43; col 6, lines 19-23) wherein the plurality of communications platforms (12) travels on a path having a radius D (2.5 - 4 miles). Martin et al do not specifically disclose:

wherein a distance between each platform is approximately 8.6D. Lindenblad discloses adjacent airplanes (B, C, and additional airplanes continuously flying in a circle (col 4, lines 1-3) to service regions wherein the distance between each platform is set at 400-600 miles (col 3, line 50 – col 4, line 13). It would have been obvious to one of ordinary skill in the art at the time the invention was made for the communication system of Martin et al to have multiple aircrafts serving large service areas between the airplanes in order to provide adequate service to large areas set at a certain arbitrary distance with less interference and with better investment without the need for an excess of ground stations to provide the same service as suggested by Lindenblad (col 2, lines 8-16).

Regarding claim 2, Martin et al and Lindenblad further disclose the communications system of claim 1, wherein Martin et al disclose the gateway (22) aggregates all data traffic comprising the information between the plurality of user terminals (18, 22 wherein reference numeral 22 could represent either a gateway or a user terminal) (col 6, lines 44-53).

Regarding claim 3, Martin et al and Lindenblad further disclose the communications system of claim 1, wherein Martin et al disclose the gateway (22) aggregates all data traffic comprising the information between each of the user terminals (18, 22) and the terrestrially based network 54 (col 6, lines 44-53).

Regarding claim 5, Martin et al and Lindenblad disclose the communications system of claim 1, wherein Martin et al disclose the system comprises more than one communications platform (col 3, lines 64-67).

Regarding claim 6, Martin et al and Lindenblad disclose the communications system of claim 5, wherein Martin et al disclose the gateway communicates with more than one communications platform (col 5, lines 50-65; col 3, lines 64-67).

Regarding claim 7, Martin et al and Lindenblad disclose the communications system of claim 6, wherein Martin et al disclose the user terminal communicates with only one communications platform 12 (col 5, lines 50-65; col 3, lines 64-67; center of fig. 1).

Regarding claim 8, Martin et al and Lindenblad disclose the communications system of claim 1, wherein Martin et al disclose the user terminal communicates with the communications platform 12 in a first frequency band, and the communications platform 12 communicates with the gateway 22 in a second frequency band (col 14, lines 18-25).

Regarding claim 9, Martin et al and Lindenblad disclose the communications system of claim 1, wherein Martin et al disclose the stratospheric location of the communications platform is within a predetermined distance of at least 52,000 feet above ground of the user terminal to maintain communications between the communications platform and the user terminal (col 3, lines 61-63).

Regarding claim 12, Martin et al and Lindenblad disclose the communications system of claim 1, wherein Martin et al disclose multiple networked ASNs 14 provide for overlapping coverage areas 16 for higher reliability of service to the subscribers. Martin didn't specifically disclose the aircrafts are in overlapping positions. However, it would have been obvious to one of ordinary skill in the art at the time the invention was

made to have the platforms in overlapping positions in order to cover overlapping service areas 16 to provide higher reliability with less service loss to subscribers that might fall between these service areas.

Regarding claim 14, Martin et al and Lindenblad disclose further discloses the communication system of claim 1, wherein Martin et al disclose the information is transponded according to a coding technique selected from the group comprising time division multiple access (TDMA) and code division multiple access (CDMA) (col 5, lines 44-50).

Regarding claim 15, Martin et al discloses a communications signal, generated by performing the steps of receiving a first signal from a user terminal having a user terminal antenna (col 6, lines 31-35) in one of a plurality of stratosphere based communications platforms (12) traveling on a path having a radius D (2.5 - 4 miles) (col 3, lines 54-67), wherein the communications platform maintains an apparent position relative to the user terminal within a focused beamwidth of the user terminal (18, 22) antenna towards the aircraft 12 (col 4, lines 8-11); and transponding the first signal from the stratosphere based communications platform to a gateway ground station 22 (col 5, lines 30-43; col 6, lines 19-23).

Martin et al do not specifically disclose:

wherein a distance between each platform is approximately 8.6D. Lindenblad discloses adjacent airplanes (B, C, and additional airplanes continuously flying in a circle (col 4, lines 1-3) to service regions wherein the distance between each platform is set at 400-600 miles (col 3, line 50 – col 4, line 13). It would have been obvious to one

of ordinary skill in the art at the time the invention was made for the communication system of Martin et al to have multiple aircrafts serving large service areas between the airplanes in order to provide adequate service to large areas set at a certain arbitrary distance with less interference and with better investment without the need for an excess of ground stations to provide the same service as suggested by Lindenblad (col 2, lines 8-16).

Regarding claim 16, Martin et al and Lindenblad disclose the signal of claim 15, wherein Martin et al disclose the terrestrially based network is the Internet (col 6, lines 44-49).

Regarding claim 18, Martin et al disclose a method for communicating from a user terminal (18), comprising:

receiving a first signal from the user terminal having an antenna (col 6, lines 31-30-35) in one of a plurality of stratosphere based communications platforms (12) traveling on a path having a radius D (2.5 - 4 miles) (col 3, lines 55-67), in a stratosphere-based communications platform (12), wherein the communications platform maintains an apparent position relative to the user terminal within a focused beamwidth of a user terminal antenna (col 4, lines 1-11);

transponding the first signal from one of the stratosphere based communications platform (12) to a gateway ground station (22) (col 5, lines 30-42; col 6, lines 19-23).

Regarding claim 19, Martin et al and Lindenblad disclose the method of claim 18, Martin et al disclose the method comprising the steps of receiving the first signal from the gateway ground station (22) in the communications platform (12) (col 5, lines 36-

39); and transponding the first signal from the communications platform to a second user terminal 20 (col 5, lines 39-42).

Regarding claim 20, Martin et al and Lindenblad disclose further disclose the method of claim 18, wherein Martin et al disclose the method further comprising the steps of transmitting the first signal from the gateway ground station (22) to the terrestrially based network (col 6, lines 44-53).

Regarding claim 21, Martin et al and Lindenblad disclose the method of claim 20, wherein Martin et al disclose the terrestrially based network is the Internet (col 6, lines 44-53).

Regarding claim 23, Martin et al disclose a communications system, comprising:

a user terminal (18) for transmitting and receiving data through a terrestrial based network (col 6, lines 44-53; col 5, lines 30-45); and

wherein the user terminal (18) communicates with a gateway 22 via a an inherent stratospheric based communications platform transponder disposed in one of a plurality of communications platforms (12) traveling on a path having a radius D (2.5 - 4 miles) located in aircraft (12) for relaying signals from the user terminal to the gateway (col 5, lines 30-43; col 6, lines 19-23).

Martin et al do not specifically disclose:

wherein a distance between each platform is approximately 8.6D. Lindenblad discloses adjacent airplanes (B, C, and additional airplanes continuously flying in a circle (col 4, lines 1-3) to service regions of 200-300 in radius wherein the distance between each platform is set at 400-600 miles (col 3, line 50 – col 4, line 13). It would

have been obvious to one of ordinary skill in the art at the time the invention was made for the communication system of Martin et al to have multiple aircrafts serving large service areas between the airplanes in order to provide adequate service to large areas set at a certain arbitrary distance with less interference and with better investment without the need for an excess of ground stations to provide services as suggested by Lindenblad (col 2, lines 8-16).

Regarding claim 25, Martin et al and Lindenblad disclose the communications system of claim 23, wherein Martin et al further disclose the user terminal communicates with the communications platform in a first frequency band, and the communications platform communicates with the gateway in a second frequency band (col 14, lines 18-25).

Regarding claim 28, Martin et al disclose a communications system (figure 1), comprising:

a plurality of communications platforms (12), each of the communications platforms (12) being located in a substantially geo-stationary stratospheric location and traveling on a path having a radius D (2.5 - 4 miles) (col 3, lines 54-67; col 5, lines 30-45);

the communication platform (12) having an inherent transponder for relaying from the aircraft 12 (col 4, lines 12-15) for communicating directly with a user terminal in cell (42), for receiving information from the user terminal and for transmitting information to the user terminal (col 3, lines 54-67; col 5, lines 30-45);

and a gateway (22), communicating with the communications platform, for coupling the user terminal with a terrestrial based network PSTN 54 or fiber backbone connected to the Internet through the communications platform (col 6, lines 44-53). Martin et al do not specifically disclose:

wherein a distance between each platform is approximately 8.6D. Lindenblad discloses adjacent airplanes (B, C, and additional airplanes continuously flying in a circle (col 4, lines 1-3) to service regions wherein the distance between each platform is set at 400-600 miles (col 3, line 50 – col 4, line 13). It would have been obvious to one of ordinary skill in the art at the time the invention was made for the communication system of Martin et al to have multiple aircrafts serving large service areas between the airplanes in order to provide adequate service to large areas set at a certain arbitrary distance with less interference and with better investment without the need for an excess of ground stations to provide services as suggested by Lindenblad (col 2, lines 8-16).

Regarding claim 29, Martin et al and Lindenblad disclose the communications system of claim 28, wherein Martin et al further disclose the system comprises more than one communications platform 12 (center and upper left aircraft 12).

Regarding claim 30, Martin et al and Lindenblad disclose the communications system of claim 29, wherein Martin et al further disclose the gateway communicates with more than one communications platform (col 5, lines 56-65).

Regarding claim 31, Martin et al and Lindenblad disclose the communications system of claim 30, wherein Martin et al further disclose the user terminal communicates with only one communications platform 12 (center of fig. 1).

Regarding claim 32, Martin et al and Lindenblad disclose the communications system of claim 1, wherein Martin et al inherently disclose the user terminal communicates with the communications platform in a first frequency band, and the communications platform communicates with the gateway in a second frequency band (col 14, lines 18-25).

Regarding claim 33, Martin et al and Lindenblad disclose the communications system of claim 32, wherein Martin et al disclose the stratospheric location of the communications platform is within a predetermined distance of the user terminal to maintain communications between the communications platform and the user terminal (col 3, lines 61-63).

Regarding claim 34, Martin et al and Lindenblad disclose the communications system of claim 28, wherein Martin et al disclose the user terminal includes a user terminal antenna characterizable by an untrackable beamwidth (col 3, line 63 – col 4, line 11) and the communications platform stays within the beamwidth of the terminal antenna (col 8, lines 24-54; col 4, lines 34-48).

Regarding claim 35, Martin et al discloses a communications signal, generated by performing the steps of:

sending a first signal from the user terminal (18) to a substantially geostationary stratosphere based communications platforms (12) each traveling on a path having a radius D (2.5 - 4 miles) (col 3, lines 54-67; col 5, lines 30-45);

transponding the first signal from the substantially geostationary stratosphere based communications platform to a gateway ground station 22 (col 5, lines 30-43); and

transmitting the first signal from the gateway ground station to the terrestrial based network Internet (col 6, lines 44-53).

Martin et al do not specifically disclose:

each platform distant from a neighboring platform by approximately 8.6D.

Lindenblad discloses adjacent airplanes (B, C, and additional airplanes continuously flying in a circle (col 4, lines 1-3) to service regions wherein the distance between each platform and a neighboring platform is set at 400-600 miles (col 3, line 50 – col 4, line 13). It would have been obvious to one of ordinary skill in the art at the time the invention was made for the communication system of Martin et al to have multiple aircrafts serving large service areas between the airplanes in order to provide adequate service to large areas set at a certain arbitrary distance with less interference and with better investment without the need for an excess of ground stations to provide services as suggested by Lindenblad (col 2, lines 8-16).

Regarding claim 36, Martin et al and Lindenblad disclose the communications signal of claim 35, wherein Martin et al disclose the first signal is transmitted from the user terminal to the stratosphere based substantially geostationary communications platform by a user terminal antenna characterizable by an untrackable beamwidth, and the communications platform stays within the beamwidth of the user terminal antenna (col 8, lines 24-54; col 3, line 63 –col 4, line 11).

Regarding claim 37, Martin et al and Lindenblad disclose a method for communicating between a user terminal (18) and a terrestrial based network, comprising:

sending a first signal from the user terminal to one of a plurality of substantially stationary stratosphere based communications platform (12) via ASN (14) traveling on a path having a radius D (2.5 - 4 miles) (col 3, lines 54-67; col 5, lines 30-45);

transponding the first signal from the one of the substantially stationary stratosphere based communications platform (12) to a gateway ground station (22) (col 5, lines 30-43); and transmitting the first signal from the gateway ground station to the terrestrial based network (col 6, lines 44-53).

Regarding claim 38, Martin et al and Lindenblad disclose the method of claim 37, wherein Martin et al disclose the first signal is sent from the user terminal to the stratosphere based substantially geostationary communications platform by a user terminal antenna characterizable by an untrackable beamwidth, and the communications platform stays within the beamwidth of the user terminal antenna (col 8, lines 24-54; col 3, line 63 – col 4, line 11).

Regarding claim 39, Martin et al discloses a communications system, comprising: a user terminal (18) for transmitting and receiving data through a terrestrial based network wherein the user terminal communicates directly with a transponder (14) on a communications platform (12) located in a substantially geostationary stratospheric location (col 3, lines 54-67; col 5, lines 30-43); and

each of the platforms (12) traveling on a path having a radius D (2.5 - 4 miles) (col 3, lines 54-67);

a gateway (22), communicating with the communications platform 12, for communicatively coupling the terrestrial based network to the user terminal through the communications platform 12 (col 6, lines 30-53; col 5, lines 30-43).

Martin et al do not specifically disclose:

each platform distant from a neighboring platform by approximately 8.6D.

Lindenblad discloses adjacent airplanes (B, C, and additional airplanes continuously flying in a circle (col 4, lines 1-3) to service regions wherein the distance between each platform and its neighboring platform is set at 400-600 miles (col 3, line 50 – col 4, line 13). It would have been obvious to one of ordinary skill in the art at the time the invention was made for the communication system of Martin et al to have multiple aircrafts serving large service areas between the airplanes in order to provide adequate service to large areas set at a certain arbitrary distance with less interference and with better investment without the need for an excess of ground stations to provide services as suggested by Lindenblad (col 2, lines 8-16).

Regarding claim 40, Martin et al and Lindenblad disclose the communications system of claim 39, wherein Martin et al disclose:

the user terminal includes a user terminal antenna characterizable by an untrackable beamwidth; and the communications platform stays within the beamwidth of the terminal antenna (col 8, lines 24-54; col 3, line 63 – col 4, line 11).

Regarding claim 41, Martin et al and Lindenblad disclose the communications system of claim 1, wherein Lindenblad disclose a line of travel of aircrafts going one after another spaced by a distance. Martin et al and Lindenblad do not disclose the

communications platform are hexagonally packed. However, the lines of travel of a plurality of aircrafts together are well known to be able to go in separate lines of travel such as a first line followed by a second line of airplane, where the second line of airplane could comprise more airplanes than the first line based on how many service regions are needed to be covered with that line of succession and so on. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to hexagonally pack the platforms in order to only provide the minimum amount of airplanes sufficient to cover the service regions along that particular line of travel.

Regarding claim 42, Martin et al and Lindenblad disclose the communications signal of claim 15 wherein Martin et al and Lindenblad don't disclose the communications platform are hexagonally packed. Martin et al and Lindenblad do not disclose the communications platform are hexagonally packed. However, the lines of travel of a plurality of aircrafts together are well known to be able to go in separate lines of travel such as a first line followed by a second line of airplane, where the second line of airplane could comprise more airplanes than the first line based on how many service regions are needed to be covered with that line of succession and so on. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to hexagonally pack the platforms of Martin et al and Lindenblad in order to only provide the minimum amount of airplanes sufficient to cover the service regions along that particular line of travel.

Regarding claim 43, Martin et al and Lindenblad disclose the method of claim 18 wherein Martin et al and Lindenblad do not disclose the communications platform are

hexagonally packed. Martin et al and Lindenblad do not disclose the communications platform are hexagonally packed. However, the lines of travel of a plurality of aircrafts together are well known to be able to go in separate lines of travel such as a first line followed by a second line of airplane, where the second line of airplane could comprise more airplanes than the first line based on how many service regions are needed to be covered with that line of succession and so on. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to hexagonally pack the platforms of Martin et al and Lindenblad in order to only provide the minimum amount of airplanes sufficient to cover the service regions along that particular line of travel.

Regarding claim 44, Martin et al and Lindenblad disclose the communications system of claim 23, wherein Martin et al and Lindenblad do not disclose the communications platform are hexagonally packed. Martin et al and Lindenblad do not disclose the communications platform are hexagonally packed. However, the lines of travel of a plurality of aircrafts together are well known to be able to go in separate lines of travel such as a first line followed by a second line of airplane, where the second line of airplane could comprise more airplanes than the first line based on how many service regions are needed to be covered with that line of succession and so on. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to hexagonally pack the platforms of Martin et al and Lindenblad in order to only provide the minimum amount of airplanes sufficient to cover the service regions along that particular line of travel.

Regarding claim 45, Martin et al and Lindenblad disclose the communications system of claim 28, the communications platform are hexagonally packed. Martin et al and Lindenblad do not disclose the communications platform are hexagonally packed. However, the lines of travel of a plurality of aircrafts together are well known to be able to go in separate lines of travel such as a first line followed by a second line of airplane, where the second line of airplane could comprise more airplanes than the first line based on how many service regions are needed to be covered with that line of succession and so on. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to hexagonally pack the platforms of Martin et al and Lindenblad in order to only provide the minimum amount of airplanes sufficient to cover the service regions along that particular line of travel.

Regarding claim 46, Martin et al and Lindenblad disclose the communications signal of claim 35 wherein Martin et al and Lindenblad don't disclose the communications platform are hexagonally packed. Martin et al and Lindenblad do not disclose the communications platform are hexagonally packed. However, the lines of travel of a plurality of aircrafts together are well known to be able to go in separate lines of travel such as a first line followed by a second line of airplane, where the second line of airplane could comprise more airplanes than the first line based on how many service regions are needed to be covered with that line of succession and so on. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to hexagonally pack the platforms of Martin et al and Lindenblad in order to only

provide the minimum amount of airplanes sufficient to cover the service regions along that particular line of travel.

Regarding claim 47, Martin et al and Lindenblad disclose the method of claim 37 wherein Martin et al and Lindenblad don't disclose the communications platform are hexagonally packed. Martin et al and Lindenblad do not disclose the communications platform are hexagonally packed. However, the lines of travel of a plurality of aircrafts together are well known to be able to go in separate lines of travel such as a first line followed by a second line of airplane, where the second line of airplane could comprise more airplanes than the first line based on how many service regions are needed to be covered with that line of succession and so on. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to hexagonally pack the platforms of Martin et al and Lindenblad in order to only provide the minimum amount of airplanes sufficient to cover the service regions along that particular line of travel.

Regarding claim 48, Martin et al and Lindenblad disclose the communications system of claim 39, wherein Martin et al and Lindenblad don't disclose the communications platform are hexagonally packed. However, the lines of travel of a plurality of aircrafts together are well known to be able to go in separate lines of travel such as a first line followed by a second line of airplane, where the second line of airplane could comprise more airplanes than the first line based on how many service regions are needed to be covered with that line of succession and so on. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was

made to hexagonally pack the platforms of Martin et al and Lindenblad in order to only provide the minimum amount of airplanes sufficient to cover the service regions along that particular line of travel.

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al in view of McKenna et al (US 6,377,802) and further in view of Emmons Jr. et al (US 6,570,858).

Regarding claim 13, Martin et al and Lindenblad disclose the communications system of claim 1, wherein Martin et al disclose each user terminal 18 is associated with a cell (col 4, lines 64-65) and user terminals in cells 42 communicate with different communication platforms 12 (col 5, lines 56-65). Martin et al and Lindenblad do not disclose user terminals in overlapping cells (fig. 5) communicate with communication platform (col 3, lines 19-67; col 10 line 8 - col 11, line 31). McKenna et al disclose user terminals in overlapping cells (fig. 5) communicate with communication platform (col 3, lines 19-67; col 10 line 8 - col 11, line 31). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have overlapping cells coverage in the system of Martin et al and Lindenblad in order to increase call handling capability Martin et al, Lindenblad, and McKenna et al didn't specifically disclose the user terminals communicate with the communication platform via spatial diversity. Emmons et al further discloses the user terminals communicate with the communication platform via spatial diversity (col 5, lines 19-22; fig. 1). It would have been obvious to

one of ordinary skill in the art at the time the invention was made to use spatial diversity to get a better quality signal transmission.

7. Claims 10, 17, 22 and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al (US 6,061,562) in view of Brown (US (6,157,621).

Regarding claim 10, Martin et al and Lindenblad disclose the communications system of claim 1, wherein Martin et al didn't further discloses the gateway comprises a plurality of gateway antennae, separated from each other by a distance sufficient to provide spatial diversity in communicating with the communications platform. Brown et al further discloses the gateway comprises a plurality of gateway antennae 106, separated from each other by a distance sufficient to provide spatial diversity in communicating with the communications platform (col 35, lines 40-50). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide spatial diversity in the gateway antenna of Martin et al in order to gain a high probability of receiving a clear undiminished signal.

Regarding claim 17, Martin et al and Lindenblad disclose the signal of claim 15, wherein the antenna (168) transpond to gateway ground station 22 (col 8, lines 13-17), Martin didn't specifically disclose the first signal is transmitted in one of a plurality of beams to the gateway ground station having a plurality of antennae disposed to provide spatial diversity among each of the plurality of beams. Brown et al further discloses the first signal is transmitted in one of a plurality of beams to the gateway ground station having a plurality of antennae 106 disposed to provide spatial diversity among each of

the plurality of beams (col 35, lines 40-50). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide spatial diversity in order to obtain a higher chance of receiving a non-faded signal.

Regarding claim 22, Martin et al and Lindenblad disclose the method of claim 18, wherein Martin et al further disclose the antenna 168 transpond to gateway ground station 22 (col 8, lines 13-17). Martin et al and Lindenblad didn't further disclose the first signal is transponded by one of a plurality of beams to the gateway ground station having a plurality of antennae disposed to provide spatial diversity among each of the plurality of beams. Brown et al further discloses the first signal is transponded by one of a plurality of beams to the gateway ground station having a plurality of antennae 106 disposed to provide spatial diversity among each of the plurality of beams (col 35, lines 40-50). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide spatial diversity in order lower the effect of fading by adding redundancy to the transmission/reception of the signal.

Regarding claim 26, Martin et al and Lindenblad disclose the communications system of claim 23, wherein Martin et al and Lindenblad didn't further disclose the gateway comprises a plurality of gateway antennae, separated from each other by a distance sufficient to provide spatial diversity in communicating with the communications platform. Brown et al further discloses the gateway comprises a plurality of gateway antennae 106, separated from each other by a distance sufficient to provide spatial diversity in communicating with the communications platform (col 35, lines 40-50). It would have been obvious to one of ordinary skill in the art at the time

the invention was made to provide spatial diversity in order to achieve a high probability of receiving a clear undiminished signal.

Regarding claim 27, Martin et al, Lindenblad, and Brown et al disclose the communications system of claim 26, wherein Martin et al, Lindenblad and Brown et al and didn't further specifically disclose the distance is at least 200 meters. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have this distance in order to ensure antenna diversity is achieved by spacing the antennae apart by a significant fraction of the wavelength.

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al (US 6,061,562) in view of Brown (US (6,157,621) and further in view of Antonio et al (US 6,339,611).

Regarding claim 11, Martin et al and Brown et al disclose the communications system of claim 10, wherein Antonio et al further discloses the user terminals communicate with the communications platform using a communication diversity selected from the group comprising: spatial diversity; and polarization diversity (col 8, lines 30-65). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide communication diversity in order to communicate with increased link margin with improved capacity and high power efficiency and to lower the effect of fading.

9. Claims 4 and 24 rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al and Lindenblad in view of MacDoran et al (US 4,797,677).

Regarding claim 4, Martin et al and Lindenblad disclose the communications system of claim 1, wherein: Martin further disclose the user terminal 18 includes a user terminal antenna characterizable by a beamwidth (col 4, lines 1-11); and the communications platform 12 maintains an apparent position relative to the user terminal within the focused beamwidth of the user terminal antenna (col 8, lines 24-54). Martin Martin et al and Lindenblad didn't further disclose the antenna is unsteerable. MacDoran et al discloses the antenna is unsteerable (col 44, lines 52-61). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have an unsteerable antenna in order to point the antenna in one direction from one point to another point directly at the destined station.

Regarding claim 24, Martin et al and Lindenblad disclose the communications system of claim 23, wherein Martin et al disclose the user terminal includes a user terminal antenna characterizable by a beamwidth(col 4, lines 1-11); and the communications platform maintains an apparent position relative to the user terminal within the focused beamwidth of the user terminal antenna towards the aircraft 12 (col 4, lines 1-11). Martin et al and Lindenblad didn't further disclose the antenna is unsteerable. MacDoran et al discloses the antenna is unsteerable (col 44, lines 52-61). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have an unsteerable antenna in the system of Martin et al and Lindenblad

in order to point the antenna in one direction from one point to another point directly at the destined station.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lana N Le whose telephone number is (703) 308-5836. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F Urban can be reached on (703) 305-4385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Lana Le

May 30, 2005